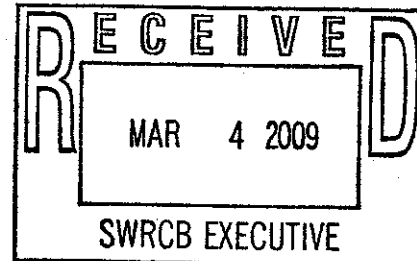


March 4, 2009

VIA EMAIL

Ms. Jeanine Townsend, Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814
commentletters@waterboards.ca.gov



Re: City of Tracy's Comments on Draft Order for
A-1846(a) and A-1846(b) - March 17, 2009 Board Meeting

Dear Ms. Townsend and Members of the State Water Board:

On behalf of the City of Tracy ("City"), we submit the following comments on the proposed Draft Order issued for public comment on February 2, 2009.

Initially, the City agrees with the State Water Board's proposal in footnote 1 of the Draft Order to dismiss the petition filed by the Environmental Law Foundation on antidegradation issues and to instead deal with these issues in a statewide policy review forum. The City agrees that these issues are more comprehensive and far-reaching than can be addressed in the context of a single permit appeal.

In addition, the City agrees with the State Water Board's proposal in footnote 2 to dismiss issues related to groundwater since those issues were not part of the final NPDES permit for the City.

On several other issues, the City disagrees with the State Water Board's proposal and believes that the permit, as issued, can be found to have complied with law, regulation and guidance. The following provides an in-depth discussion of each issue:

A. Electrical Conductivity

1. The Permit Contains Enforceable Numeric and Narrative Requirements

The Draft Order focuses solely on the final numeric effluent limitation for Electrical Conductivity (EC) and ignores the numerous other requirements in the Permit for addressing the larger issue of salinity. First, the Permit does contain a numeric final effluent limit for EC (see

Permit at pg. 9, Provision IV.A.1.i). Alternatively, this provision provides a narrative set of requirements to comply with in lieu of application of the numeric effluent limit. These requirements include:

- 1) Obtaining a lower salinity water supply¹
- 2) Developing a salinity source control program, and
- 3) Participating in the Central Valley Salinity Management Plan

Each of these narrative requirements are “enforceable and designed to implement the water quality objectives” for salinity (EC, TDS, chloride, etc.) as required by the precedent set in State Water Board Order No. 2003-12 cited in the Draft Order at pg. 7. If the City fails to comply with these narrative requirements, an extremely stringent effluent limit of 700/1,000 $\mu\text{mhos/cm}$ will apply immediately with no compliance schedule.

In addition, the Permit contains numerous other salinity control requirements, including:

- 1) Pollution Prevention requirements for salinity (Provision VI.C.1.d. and VI.C.3.b.),
- 2) Best Practicable Treatment or Control requirements with enforceable compliance dates (Provision VI.C.2.b.),
- 3) A salinity reduction goal of 1350 $\mu\text{mhos/cm}$ EC as a monthly average (Provision VI.C.2.c.),
- 4) A demonstrated reduction in the discharge’s salinity before an expansion is allowed (Provision VI.C.4.b.iii.)
- 5) Pretreatment requirements (Provision VI.C.6.a.)
- 6) Annual mass loading limit for Total Dissolved Solids of 13,688 tons/year (Provision IV.A.5.f. and VII.H.)

Instead of chastising the Regional Water Board for its approach, the State Water Board might want to encourage such alternative regulatory approaches for salinity, including the use of narrative effluent limits or Best Management Practices (BMPs) and pollution prevention/source control measures because compliance with the numeric final limits for EC is infeasible.² 40 C.F.R. §122.44(k)(3).

¹ The City relies upon groundwater sources, water from the Delta-Mendota Canal, and some Sierra water for the drinking water it delivers. The EC of the Sierra surface water supply is approximately 100 $\mu\text{mhos/cm}$.

² The SIP defines “infeasible” as “not being capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” See SIP at pg. Appendix 1-3; see also SWRCB Order No. 2005-005 (City of Manteca order – while not precedential, this order can certainly be used as guidance).

A California Court of Appeal has approved this practice by holding that 40 C.F.R. section 122.44(d) does not require a numeric effluent even upon a demonstration of reasonable potential.³ *Communities for a Better Environment (CBE) v. SWRCB*, 109 Cal.App.4th 1089, 1105 (2003) (“It thus appears that in the application of the modifier ‘numeric,’ the trial court confused effluent limitations (i.e., WQBELs) with water quality criteria. We see nothing in the regulation which mandates numeric WQBELs in all circumstances. The definition of ‘effluent limitation’ in the CWA refers to ‘any restriction,’ does not specify that a limitation must be numeric, and provides that an effluent limitation may be a schedule of compliance. (33 U.S.C. §1362(11).) Moreover, section 122.44(k)(3) permits non-numeric WQBELs where numeric ones are not feasible.”); *see also In the Matter of the Petition of Citizens for a Better Environment, Save San Francisco Bay Association, and Santa Clara Audubon Society*, SWRCB Order No. WQ 91-03, 1991 WL 135460 at p.12 (May 16, 1991)(the State Water Board held that “numeric effluent limitations are not legally required. Further, we have determined that the program of prohibitions, source control measures, and ‘best management practices’ set forth in the permit constitutes effluent limitations as required by law.”)⁴ In the *CBE* case, the Regional and State Water Boards had concluded that a numeric WQBEL for dioxin was not feasible (i.e., “not appropriate”) because the Refinery was not a substantial source of dioxin and was essentially a “conveyance . . . from other sources.” *CBE*, 109 Cal. App. 4th 1089 at 1099. Similarly, the City’s plant is not a source of the salt, but a conveyance of salts from groundwater, and from residential, commercial and industrial users.

The imposition of treatment technologies like reverse osmosis far exceeds the mandated treatment requirements of the Clean Water Act, utilizes huge amounts of energy,⁵ and might be

³ Although the Draft Order states that “no one disputes this fact [that there is reasonable potential for EC]” (Draft Order at pg. 6), the City did question the finding of reasonable potential because the Regional Water Board did not include complete information on historic receiving water conditions for EC in Old River in the record for this Permit. While the Fact Sheet states that average level of EC in Old River for the period July 1998 through November 2003 was 640 umhos/cm, it is not demonstrated that a reasonable potential exists for the City’s effluent to contribute to a violation of the EC water quality objectives, or that it was properly determined that the City’s permit should include EC effluent limitations.

⁴ “The State Board noted the EPA’s regulatory definition of ‘effluent limitation’ was broad, and noted that the *Costle* decision supported the conclusion that numeric limitations were not required—especially since the CWA ‘gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges.’” *CBE* at 1106 citing 1991 WL 135460, p. 15, quoting *NRDC v. Costle*, 568 F.2d 1369, 1380 (D.C. Cir. 1977). The *Costle* case “suggests that Congress did not intend numeric effluent limitations to be the only limitation on pollution discharges under the CWA, but intended a flexible approach including alternative effluent control strategies.” *Id.*

⁵ Should the final effluent limitations be imposed, Tracy would be compelled to immediately construct and operate a microfiltration/reverse osmosis (RO) treatment facility to treat a significant portion of the influent flow. The estimated size of the RO process required to achieve reliable compliance with the proposed effluent limit of 700 µmhos/cm is 10.0 mgd. The estimated capital cost is **\$134 million**. The City estimates that the annualized cost of constructing reverse osmosis facilities would be at least **\$19.2 million**. The estimated annual cost of operating a 10 mgd RO facility is **\$8.5 million per year**. This

deemed to be unnecessary once an alternative water supply and source controls for salinity are fully in place. Such a potential waste of resources is not reasonable, and ignores the fact that salinity control may require a "carefully conceived, agency-approved, long-term pollution control procedure for a complex environmental setting." See *CBE*, 109 Cal.App.4th at 1107. Instead of driving full speed toward the implementation of reverse osmosis technology, the State should be considering "an interim approach[] to continue controlling and regulating salts in a reasonable manner," as recommended by Central Valley Regional Board Chairman Dr. Longley, who also chairs the State's committee related to salinity policy.

2. Numeric Effluent Limits Based on Agricultural Goals of 700/1,000 µmhos/cm are Not Appropriate.

Notwithstanding the findings in the Draft Order, the Permit's EC effluent limitations are not based on the 1995 Delta Plan water quality objectives for EC in the southern Delta, which after April 1, 2005, would be 700 µmhos/cm for April 1 through August 31 and 1000 µmhos/cm for the remaining months.

Instead, the Regional Board used the narrative chemical constituents objective to impose a number lower than the range of values required as secondary MCLs⁶ (namely 900 to 1600 µmhos/cm), and imposed a 700 µmhos/cm effluent limit, based on an agricultural water goal derived by the United Nations to protect crops that "are either currently grown in the South Delta or may be grown in the future." Fact Sheet at pg. F-43. Comparisons were made for effluent and receiving water data *before April of 2005* when the Bay-Delta objectives became effective, thus, those comparisons by definition could not have been to anything other than the agricultural water quality goals.

The non-regulatory agricultural water quality goal of 700 µmhos/cm is not reasonably required to be applied to the Old River area. No evidence exists or was cited to prove that salt-sensitive crops are grown in the area using Old River as a water supply and that such crops are likely to be adversely impacted based on the manner in which those crops are irrigated, or that any actual adverse impacts have been registered to confirm the necessity of additional restrictions above and beyond existing levels of EC. These site specific evaluations must be made before using a water quality goal derived based on prevailing conditions in the Middle East, an area with different climactic and hydrological characteristics. See *Own Motion Review of the City of Woodland*, State Board Order No. WQO 2004-0010 (April 22, 2004).⁷

represents nearly a **400 percent** increase in the City's annual operating budget for its wastewater treatment facilities.

⁶ See Exhibit L attached to Tracy's comments on the original draft permit, which was an EPA document explaining secondary MCLs as non-enforceable guidelines.

⁷ In the *City of Woodland* Order, the State Board determined that when the Regional Board applies narrative objectives, the Regional Board must evaluate whether the specific numerical values used "are

The State Board has made it clear that guidance numbers for EC (such as the MCLs) “cannot be interpreted as an absolute value.” *Id.* Rather, the site-specific conditions applicable to City’s discharge may allow some relaxation in the values imposed. *Ibid.*; see also Water Code §13263(a). A review of those site-specific conditions was not done in this case and a numeric effluent limit based on these agricultural goals should not be mandated by the State Water Board.⁸

In addition, the use of these agricultural goals, which were purportedly set to protect the most salt-sensitive agricultural crops, are unreasonable and therefore violate Water Code §13000.⁹ These objectives are particularly unreasonable in light of the fact that such objectives are not necessary to protect any “existing” beneficial uses of Old River. EPA regulations define “existing use” as “those uses *actually attained in the water body* on or after November 28, 1975, whether or not they are included in the water quality standards.” 40 C.F.R. §131.3(e)(emphasis added).¹⁰ Because of the reasons provided herein, the use of stringent agricultural goal numbers to set effluent limitations are inappropriate.

relevant and appropriate to the situation at hand.” *Id.* Applying an EC value without further study as to its general applicability, was found by the State Board to be inappropriate. *Id.* at pg. 7. The State Board found that “the true suitability of a given water depends on the specific conditions of use and on the management capability of the user.” *Id.* In the *Woodland* case, as is the case here, the specific uses of the waters in question were not studied to determine an appropriately protective EC value given the actual and probable future uses of the waters in question.

⁸ If an effluent limitation for EC is mandated as a result of the State Board’s Draft Order, that limit should be at least 1600 µmhos/cm, which represents the highest end of the allowable range of MCL values for EC in 22 C.C.R. Table 64449-B and this value should apply year round as at least a 6-month average. See *City of Woodland* permit, R5-2003-0031 at pg. 21 (although EC limit was removed by the State Water Board for the reasons described above, that limit was set as a 6-month average). A longer term average limit is appropriate because monthly and weekly average limitations are not practicable given the extraordinary treatment required to meet such limits. 40 C.F.R. §122.45(d)(2); see also *Woodland* Court Order at pg. 20.

⁹ Water Code §13000 requires regulation “to attain the highest water quality which is *reasonable*, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.”

¹⁰ The regulations’ reference to “uses actually attained in the water” raises the question as to whether an off-stream agricultural use qualifies as an “existing use” under 40 C.F.R. §131.3(e). There is ample precedent nation-wide for off-stream uses having to treat water prior to its ultimate use. This is true of drinking water uses as well as agricultural and industrial uses. If this were not the case, one could take this situation to ludicrous extremes. For example, if a microchip manufacturer located on a stream and wanted to use that stream for its industrial uses, but needed distilled water, that would be the most sensitive use, but to get the water to that level, if even possible, would kill any aquatic life using the water as an in-stream use. Thus, it makes more sense and is more reasonable for off-stream users to treat or blend stream water with potable or ground water to achieve levels necessary to support the off-stream use.

3. Use of the Bay-Delta Salinity Objectives are Similarly Inappropriate

The Draft Order seems to point to a requirement to meet the numeric water quality objectives in the Bay-Delta Plan, which was first referred to as the "Water Quality Control Plan for Salinity, San Francisco Bay/Sacramento-San Joaquin Delta Estuary, 91-15 WR, May 1991" (1991 Delta Plan). The 1991 Delta Plan was one in a series of documents that the State Board has prepared and adopted in its efforts to protect water quality in the Delta area through the coordinated exercise of the State Board's authority over water rights and water quality.¹¹

Rather than focusing primarily on meeting water quality objectives through regulation of point source discharges like those from the City of Tracy, the 1991 Delta Plan provided "the State Board recognizes that the flow requirements and salinity objectives are largely to be met by the regulation of water flow." See 1991 Delta Plan, pg. 2-2. With respect to reducing the quantity of salt in the southern Delta area, the State Board established a goal of reducing the salt load discharged to the San Joaquin River by at least 10 percent and estimated that goal could be met through increased irrigation efficiency to reduce subsurface drainage. The State Board referred to development of a salt load reduction policy, the goals of which "should be achieved through development of best management practices and waste discharge requirements for non-point source dischargers." See 1991 Delta Plan at pg. 7-5.¹²

In May of 1995, the State Board adopted a revised water quality control plan for the Delta. ("Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary, 95-1 WR, May 1995" (1995 Delta Plan). The 1995 Delta Plan delayed the implementation date for the EC objectives in the southern Delta until December 31, 1997. See 1995 Delta Plan, at pg. 17, Table 2.

On March 15, 2000, the State Board adopted Revised Water Right Decision 1641, which once again addressed the relationship between water diversions and implementation of Delta water

¹¹ The State Board's water quality control plans for the Sacramento/San Joaquin Delta have been based, in part, upon recognition of the interrelationship between water rights and water quality in the complex Delta system. In addition to addressing the effect of water diversions from the Delta and upstream tributaries on water quality in the Delta, the plans discuss the effects that agricultural irrigation return flows have had on the increased discharge of salt to the Delta and Delta tributaries. See Revised Water Right Decision 1641, pg. 89; see also City of Tracy's Response to Petitions of CSPA/ELF - SWRCB/OCC Files A-1846(a) and A-1846(b) (March 21, 2008) incorporated herein by reference.

¹² Water Code section 13242 requires implementation plans for all water quality objectives to identify what entities must undertake activities to come into compliance with the objective. If entities, or categories are not identified, then they are not on notice that the objectives will be applied to them. The resolution adopted in 2006 also recognized this by finding: "The State Water Board may consider additional measures for meeting the southern Delta salinity objectives through both its water rights and water quality authorities. The State Water Board will provide adequate notice and opportunity for hearing as appropriate before adopting additional measures." See Plan Amendment Report, Appendix 1 to the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (December 13, 2006) at pg. 72.

quality objectives and determined that “the actions of the CVP are the principal cause of the salinity concentrations exceeding the objectives at Vernalis. See SWRCB Revised Decision 1641 at pg. 83. This State Board decision also states: “this order amends the export permits of the DWR and of the USBR to require the projects to take actions that will achieve the benefits of the permanent barriers in the southern Delta to help meet the 1995 Bay-Delta Plan’s interior Delta salinity objectives by April 1, 2005. Until then, the DWR and the USBR will be required to meet a salinity requirement of 1.0 mmhos/cm [equivalent to 1000 µmhos/cm]. If, after actions are taken to achieve the benefits of barriers, it is determined that it is not feasible to fully implement the objectives, the SWRCB will consider revising the interior Delta salinity objectives when it reviews the 1995 Bay-Delta Plan...” See Revised Water Right Decision 1641, pgs. 86-88, emphasis added.

Although the water right decision did not amend the water quality objectives in the 1995 Delta Plan, the decision defines the responsibilities of the Department of Water Resources (DWR) and the Bureau of Reclamation (USBR) as the primary entities responsible for implementation of the southern Delta EC objectives. Footnote 5 to Table 2 of the decision provides that:

“The 0.7 EC objective [equivalent to 700 µmhos/cm] becomes effective on April 1, 2005. The DWR and USBR shall meet 1.0 EC at these stations year round until April 1, 2005. The 0.7 EC objective is replaced by the 1.0 EC objective from August after April 1, 2005 if permanent barriers are constructed or equivalent measures are implemented in the southern Delta and an operations plan that reasonably protects southern Delta agriculture is prepared by the DWR and the USBR and approved by the Executive Director of the SWRCB. The SWRCB will review the salinity objectives for the southern Delta in the next review of the Bay-Delta objectives following construction of the barriers.”

See Revised Water Right Decision 1641, pg. 182.

The State Board took further action with respect to the EC water quality objectives in the southern Delta through the adoption of State Board Resolution No. 2004-0062 on September 30, 2004. The resolution adopted the staff report for the periodic review of the 1995 Delta Plan and affirmed the plan as it currently exists until changed by action of the State Board. In adopting the staff report, the State Board accepted the recommendation to receive further information to help decide whether to amend several provisions of the plan, including the southern Delta EC objectives. The State Board also accepted the staff recommendation to consider amending the Program of Implementation section of the plan as necessary for implementation of any changes to the EC water quality objectives for the southern Delta or other revised objectives. See State Board Resolution No. 2004-0062, pgs. 1 and 2.¹³

Although the Draft Order in footnote 12 states that, in 2006, the Bay-Delta Plan was revisited in Resolution No. 2006-0098, the salinity objectives were readopted without change, and the “ambiguity that the EC objectives applied through the southern Delta water bodies” was

¹³ The staff report adopted in State Board Resolution No. 2004-0062 recommended that the State Board not consider changes to the EC objectives upstream of Vernalis and several other provisions of the 1995 Delta Plan at that time.

removed. However, the State Water Board still did not discuss or adopt an implementation plan required under Water Code section 13242 for treated effluent discharges that might be a source of salinity in the southern Delta or consider the environmental, economic, or water quality impacts of using these EC objectives as end-of-pipe effluent limits for point source discharges. *See supra* footnote 10. The record also establishes that the implementation date for actions to implement the 0.7 mmhos/cm EC objective [equivalent to 700 μ mhos/cm] for April through August was repeatedly postponed and that the State Board adopted a report recommending review of southern Delta EC objectives and continues to sponsor and hold workshops on salinity management in the Central Valley.¹⁴ Revised Water Right Decision 1641 placed primary responsibility for meeting the EC objectives on the Department of Water Resources and the Bureau of Reclamation, and did not require those agencies to implement the 0.7 mmhos/cm [700 μ mhos/cm] EC objective until April 1, 2005. Given these facts, applying these objectives as numeric effluent limitations on municipal dischargers such as Tracy is inappropriate, unnecessary, and not required by law.

The City contends that the only way it could assure compliance with a 700 μ mhos/cm EC effluent limitation in its permit would be through construction and operation of a reverse osmosis water treatment facility. The City further contends that because of the relatively high salinity of the receiving water and the relatively small portion of flow provided by the City's discharge, the City's use of reverse osmosis would have relatively little effect on the ambient EC levels of water downstream in the river. This was demonstrated by the Department of Water Resources' modeling of Tracy's discharge and its *de minimus* effect downstream. *See* Permit at pgs. F-47 and F-48. Figure F-3 on pg. F-48 demonstrates that removal of the City's discharge entirely would not change the compliance status of the ambient water.

In addition, the City requests that the State Water Board take official notice¹⁵ of the fact that operation of a large-scale reverse osmosis treatment plant would result in production of highly saline brine for which an acceptable method of disposal would have to be developed. Consequently, any decision that would require use of reverse osmosis to treat the City's municipal wastewater effluent on a large scale should involve a thorough consideration of the expected environmental effects of that requirement and thorough demonstration of the need for such a response by the City.

¹⁴ The 2006 Modification Report for the Changes to the 1995 Delta Plan at pg. 3 explains that: "The State Water Board recommends additional measures that should be taken by the State Water Board, Central Valley Regional Water Board, and other agencies to assist in achieving the southern Delta salinity objectives. In addition, the State Water Board intends to convene a workshop to discuss undertaking an independent scientific investigation of irrigation salinity needs in the southern Delta (similar to the investigation on which the objectives are based) to provide a current foundation for supporting the objectives or making changes to the objectives in the future based on studies specific to the southern Delta."

¹⁵ Cal. Code Regs, tit. 23, §648.2.

The causes and potential solutions to the salinity problems in the southern Delta are highly complex subjects that have received and are continuing to receive an unprecedented amount of attention from the State Water Board in the exercise of its coordinated authority over water rights and water quality. Although the ultimate solutions to southern Delta salinity problems have not yet been determined, previous actions establish that the State Water Board intended for municipal wastewater permit effluent limitations to play no significant role with respect to achieving compliance with the EC water quality objectives in the southern Delta.

Immediate construction and operation of reverse osmosis facilities to treat a significant portion of the discharge from the City's treatment plant during the planning, design and implementation of a valley-wide salinity plan does not represent a reasonable regulatory approach.¹⁶ While the State Water Board's Manteca decision (Order No. 2005-05) may not be precedential, it was not unreasonable or unlawful for the Regional Water Board to utilize that decision as guidance in dealing with another similar case.

For these reasons, the creative, but lawful approach of having alternative narrative effluent limits in lieu of infeasible numeric effluent limits should be upheld by the State Water Board. U.S. EPA representatives were at the hearing on this Permit and understood the challenges with salinity regulation. The fact that U.S. EPA failed to veto this Permit and the salinity provisions speaks volumes about the legality of the provisions contained therein, since as explained above, California and federal courts have held that effluent limits need not be numeric in order to be valid and enforceable.

B. Dilution Credits

The statement that the discharge is incompletely mixed refers to the conditions that occur at the immediate point of discharge in Old River over short time intervals and serves as a classification for determining dilution credits. Completely-mixed discharge is defined in the State Implementation Policy (SIP) as:

¹⁶ The unreasonableness of mandating limits that will require the implementation of reverse osmosis is supported by the fact that the State Board adopted a staff report recommending that the periodic review of the 1995 Delta Plan should consider possible revision of the southern Delta water quality objectives for EC. See State Board Resolution No. 2004-0062. The staff report states: "..... staff also recommends that the implementation recommendation for these [southern Delta EC] objectives be reviewed to ensure that they are timely described, effective, feasible, and consistent with existing requirements for salinity management in the southern Delta. To the extent possible, staff recommends that review of this issue be coordinated with the CVRWQCB's ongoing TMDL and Basin Plan Amendment (BPA) efforts for salt and boron on the San Joaquin River." See State Board Resolution No. 2004-0062, attached staff report at pg. 32. Given that these objectives may be reviewed again and changed in the future, or some relief may be granted through the Salinity Plan or a TMDL, the requirement of implementation of high cost treatment to meet current objectives is patently unreasonable.

“... not more than a 5 percent difference accounting for analytical variability, in the concentration of a pollutant exists across a transect of water body at a point within two stream/river widths from the discharge point.”

Incompletely-mixed discharge is defined as:

“... a discharge that contributes to a condition that does not meet the meaning of a completely-mixed discharge condition.”

Determination of completely-mixed or incompletely-mixed discharges is only a classification within the SIP as to how to determine dilution credits. The dilution ratio is the amount of receiving water available to dilute the effluent and is the maximum bound for the dilution credit used to calculate effluent limitations.

If the discharge is completely-mixed under the definition in the SIP, the dilution credit may be set equal to the dilution ratio determined from the critical flows listed in Table 3. The dilution credit may be reduced as necessary for site-specific conditions if necessary to protect beneficial uses and meet conditions of the Policy.

For incompletely-mixed discharges, the SIP requires a “...mixing zone study and demonstration to the satisfaction of the RWQCB that a dilution credit is appropriate. Mixing zone studies may include, but are not limited to, tracer studies, dye studies, modeling studies, and monitoring upstream and downstream of the discharge that characterize the extent of actual dilution.” (SIP at page 17). Whether or not a discharge is completely-mixed or incompletely mixed the dilution credits are only limited by the dilution ratio calculated from the critical flowrates in Table 3.

The City acknowledges that the discharge does not meet the definition of completely-mixed and, therefore, followed the procedures for incompletely-mixed discharges. The SIP at section 1.4.2.1 allows the use of “modeling studies” when providing dilution credits. Moreover, the Draft Order recognizes that mixing zones and dilution credits may be provided under the SIP when based on special studies and site-specific data. *See* Draft Order at pg. 10. The City of Tracy has information based on modeling and site specific information that justified the use of harmonic mean dilution. Even the Draft Order (albeit in a footnote) recognizes that the DSM2 Model performed for this Permit, calculates many parameters, including “trihalomethane formation.” *Id.* at pg. 12, footnote 24. Since the two constituents at issue are both trihalomethanes, namely bromodichloromethane and chlorodibromomethane, these studies and modeling should be adequate to justify the Regional Board’s granting of dilution credits under the SIP, regardless as to whether the discharge is characterized as “incompletely-mixed.”

The Draft Order at pg.12 states that “For an incompletely-mixed discharge, any dilution credit must be determined based on an appropriate mixing zone study using site-specific data, and the credit can provide only the necessary assimilative capacity and not all the available assimilative capacity.” The SIP does require a mixing zone study using site-specific data to determine the dilution credit, demonstrating to the satisfaction of the Regional Board that the credits are

appropriate. The Draft Order incorrectly states that the dilution credit can provide only the necessary assimilative capacity and not all the available assimilative capacity. In fact the SIP only limits the credits to the dilution ratio calculated from critical flows listed in Table 3. For completely-mixed discharges, the dilution credit is specified in the SIP to be set equal to the dilution ratio. The SIP at Section 1.4.2.2 states that a mixing zone shall be small as practicable and allows for limiting the mixing zone as necessary to protect beneficial uses; however there are no requirements prohibiting a dilution credit from being equal to the dilution ratio calculated from critical flows specified in Table 3.

Due to tidal action, at times the City's discharge occurs during slack water conditions. During those periods, the City's discharge is incompletely mixed into the receiving water. Slack water conditions occur over short time intervals, on the order of several hours. Subsequently, riverine flow characteristics in Old River resume, and the City's discharge becomes well mixed. The DSM2 modeling that was performed for the City to determine harmonic mean flow conditions in the receiving waters focused on conditions that occur at some distance from the point of discharge. By the nature of harmonic mean determinations, longer time periods (on the order of 70 years given application to human health criteria for which similar time periods of exposure are utilized) are considered, which negate the transitory effect of short term tidal fluctuations. From the perspective of a harmonic mean dilution determination, the City's discharge should be considered "completely-mixed." The proposed order should be revised to reflect this fact and to reflect the acceptability of the analysis performed by the City and used by the Regional Water Board in the determination of effluent limits for the two trihalomethanes.

C. Chronic Ammonia Effluent Limitation

The Draft Order seems to be splitting hairs over whether the Regional Board may use a median value in lieu of an average value. There are no regulations requiring an average instead of a median, only guidance documents. There is no law stating that the most conservative, most stringent, worst case scenario approach must be taken. However, that is the message being sent by the Draft Order.

Ammonia regulation is set to protect aquatic life uses, and the criteria are generally set to protect against more than a once in three years in-stream exceedance of the applicable water quality standard. See EPA's 1994 Water Quality Standards Handbook at pg. 3-3. Even EPA criteria are often set in a manner that are not designed to be fully protective of 100% of the most sensitive species and instead regulate to a 95th percentile level. For this reason, the Regional Board's actions to regulate ammonia do not represent an abuse of discretion. In addition, the Draft Order ignores the fact that the Permit also includes numerous other requirements to monitor for and address toxicity that might be caused by ammonia (see e.g., Prov. IV.A.1.c., V.A.7, VI.C.2.a. and Permit Attachment E, Section V.B. at pg. E-7 to E-8).

So long as the beneficial uses are protected by the effluent limitation imposed, the law is being followed. Unless the State Board has proof that the effluent limitation selected is not protecting aquatic life from chronic exposure to ammonia, the effluent limitation should not be disturbed.

The Regional Water Board establishes ammonia limits in NPDES permits based on its application of Best Professional Judgment in the interpretation of narrative toxicity objectives in the Basin Plan. The Regional Water Board uses the latest USEPA criteria for ammonia as the basis for its analysis. In setting water quality-based effluent limits for ammonia, the Regional Water Board must consider best available information pertaining to the multiple factors that influence the effect of a specific discharge. Among those factors are the ammonia concentration of the effluent, the pH and alkalinity of the effluent, the temperature of the effluent, and the pH, temperature and ammonia concentration that occur at various locations in the receiving water as a result of the discharge. In some cases, due to the complexity of the analysis, the Regional Water Board uses paired data analysis to assess the presence of ambient toxicity in the receiving water in the vicinity of a permitted discharge.

The Regional Board has exercised its best professional judgment in establishing the ammonia effluent limits in the adopted NPDES permit. It does not appear that the evaluation of the approach used by the Regional Water Board gives proper consideration to the complexity of that best professional judgment determination, since the proposed order focuses singularly on the averaging period used for pH determination to the exclusion of all other considerations.

As a result, the proposed order would impose a simplistic methodology for the establishment of ammonia effluent limits based on the selection of a worst case monthly average pH in the receiving waters that fails to address any of the multiple factors outlined above. Most importantly, the proposed approach would fail to evaluate or establish any linkage between the effluent discharge and the receiving water location from which the worst case pH conditions are derived. This would not represent a valid scientific or technical approach nor would it represent either a proper application of best professional judgment or the best use of available information. Resulting effluent limits would unfairly penalize the permittee and be unreasonably and unnecessarily conservative in contravention of the requirements of Water Code section 13000 (*see supra* footnote 9). Such an action would be especially unreasonable in this case, where the City has installed nitrification facilities that represent best practicable control technology to substantially reduce ammonia levels in its discharge.

If the permit is remanded to reevaluate and re-establish the ammonia effluent limits, a robust analysis of effluent and background water quality, resulting discharge-impacted conditions in the receiving waters, and ambient toxicity analysis based on paired data analysis of ammonia, pH and temperature conditions using USEPA ammonia criteria must be performed. A singular focus on the averaging period alone is not appropriate or reasonable and should be removed from the Draft Order.

D. Chronic Toxicity Effluent Limitation

The Draft Order concludes that the Permit does not contain an appropriate final effluent limitation for chronic toxicity. *See* Draft Order at pg. 16. However, the Draft Order ignores the numerous requirements contained in the Permit related to chronic toxicity, including the requirements to:

- 1) Comply with a narrative requirement that the discharge shall not cause the following in Old River: “Toxicity. Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal or aquatic life. This applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.” (Provision V.A.7.)
- 2) Conduct chronic whole effluent toxicity testing as specified in the Monitoring and Reporting Program (Permit Attachment E, Section V.B. at pg. E-7 to E-8).
- 3) Meet a numeric monitoring trigger of less than 1 TUc. (Provision VI.C.2.a.iii.)
- 4) Investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity (Permit Prov. VI.C.2.a.i-iv.).
- 5) Initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE workplan if the discharge exceeds the numeric toxicity trigger. See Permit at Prov. VI.C.2.a.ii., pgs. 21-22, and F-67.
- 6) Reopener in Permit to add additional requirements as a result of any TRE or when a numeric limitation is available. (Provision VI.C.1.e.) *The Draft Order specifically and incorrectly states that this requirement is missing from the Permit. See Draft Order at pg. 17.*

These requirements are consistent with the State Water Board’s precedential opinion in Order No. WQO 2003-012, and constitute a narrative “effluent limitation” sufficient to meet federal requirements. See *Communities for a Better Environment v. SWRCB*, 109 Cal.App.4th 1089, 1105 (2003)(The definition of ‘effluent limitation’ in the CWA refers to ‘any restriction,’ does not specify that a limitation must be numeric, and provides that an effluent limitation may be a schedule of compliance and enumerated tasks); see also 33 U.S.C. §1362(11); 40 C.F.R. §122.44(k)(3) (permits non-numeric WQBELs where numeric ones are not feasible); see also *In the Matter of the Petition of Citizens for a Better Environment, Save San Francisco Bay Association, and Santa Clara Audubon Society*, SWRCB Order No. WQ 91-03, 1991 WL 135460 at p.12 (May 16, 1991)(“numeric effluent limitations are not legally required.) For these reasons, the Draft Order incorrectly concludes that there is no legally enforceable effluent limitation.

E. Bis(2-ethylhexyl)phthalate

The Draft Order incorrectly states that “based on the limited data, the SIP procedures require a finding of reasonable potential for bis(2-ethylhexyl)phthalate (“bis-2”).” See Draft Order at pg.

17. The SIP specifically provides Regional Boards with the discretion to determine that data are “unavailable,” “inappropriate” or insufficient.” See SIP section 1.2 (“When implementing the provisions of this Policy, the RWQCB shall use all available, valid, relevant, representative data and information, as determined by the RWQCB. The RWQCB shall have discretion to consider if any data are inappropriate or insufficient for use in implementing this Policy. Instances where such consideration is warranted include, but are not limited to, the following: evidence that a sample has been erroneously been reported or is not representative of effluent or ambient receiving water quality, questionable quality control/quality assurance practices, and varying seasonal conditions.” (emphasis added))

It was not unreasonable for the Regional Board to exclude the use of j-flagged data from its calculations of reasonable potential. These detected, but not quantified (DNQ) values are merely estimated concentrations calculated from a relative peak response below the lowest point on their calibration curve. Therefore, these data are merely *estimates*, not legally defensible values, and should not be used for regulatory purposes. See *In the Matter of Chevron USA, Inc.*, WQO No. 2002-0011 at pg. 14, footnote 35 (“Estimated concentrations may indicate a less reliable value.”)

This is particularly the case with bis-2, as even the State Board in precedential orders has held that there is a high likelihood of interference and contamination that may cause false positive readings. See *In the Matter of the Petitions of East Bay MUD and BACWA*, Order No. WQO 2002-0012 at pg. 28.

The Fact Sheet for the Permit adequately explained that “without quantifiable detections, it is unclear if the discharge has a reasonable potential to cause or contribute to an in-stream excursion of the CTR criterion.” See Permit at pg. F-32. Thus, in accordance with the SIP at section 1.3, Step 8, the Regional Board “require[d] additional monitoring for the pollutant in the place of a water quality-based effluent limitation.” As stated in the Fact Sheet, the Permit “requires monthly monitoring of bis(2-ethylhexyl)phthalate for one-year using improved sample collection and handling techniques and a method detection level below the CTR criterion... If detectable concentrations of bis(2-ethylhexyl)phthalate exceeding the CTR criterion occur during the first year of monitoring, this Order shall be reopened to include an effluent limitation for bis(2-ethylhexyl)phthalate.” See Permit at pg. F-32. This represents a reasonable approach of more precise monitoring for a short, defined period of time to determine whether reasonable potential actually exists instead of using questionable data to presume an effluent limit is needed. The Regional Board’s actions were consistent with the discretion granted in the SIP and this action should not be overturned on review.


This is particularly true since no detectable data points have been found since the more precise data collection for bis(2-ethylhexyl)phthalate was begun after the permit. Therefore, remand of the permit is not necessary as no reasonable potential exists.

Ms. Jeanine Townsend, Clerk to the Board
March 4, 2009
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The City hopes that its comments will be carefully considered and the Draft Order will be modified as requested.

Respectfully submitted,

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